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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,141	12/20/2001	Vincent J. Zimmer	10559-632001/ P11183	3533

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EXAMINER

CHANG, ERIC

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,141

Applicant(s)

ZIMMER ET AL.

Examiner

Eric Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-30 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 14 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1, 14 and 20 make reference to industry standard Extensible Firmware Interface (EFI), and is rejected as being indefinite, as rules change over time. Since the organizations implementing standards meet regularly and have the authority to modify standards, any connection a claim may have to these standards may have varying scope over time.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,890 to Datta, in view of U.S. Patent 6,816,963 to Krithivas et al.

7. As to claim 1, Datta discloses a method comprising: initializing a boot routine in a computer [col. 5, lines 29-31]; bootstrapping a volume top file [208] located in a first addressable location [col. 6, lines 27-35] accessible upon the initializing of the boot routine [col. 5, lines 29-31]; and the volume top file bootstrapping a set of firmware modules [col. 5, lines 41-44].

Datta teaches the limitations of the claim, including that the computer has both a legacy and a native architecture [Abstract] but does not teach that the computer has modular, architecturally defined components for build firmware, wherein the volume top file conforms to an EFI specification.

Krithivas teaches that a computer has both a legacy and a native architecture [FIG. 5]. Thus, Krithivas teaches a firmware architecture similar to that of Datta. Krithivas further teaches that the native architecture conforms to an EFI specification comprising modular architecturally defined components for build firmware, and that the native volume top file conforms to an EFI specification [col. 2, lines 60-67, and col. 3, lines 1-12].

At the time that the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the EFI standard as taught by Krithivas. One of ordinary skill in the art would have been motivated to do so because EFI is a firmware standard, well known to one of ordinary skill in the art, used for booting a computer.

It would have been obvious to one of ordinary skill in the art to combine the teachings of the cited references because they are both directed to the problem of booting a computer with support for both native and legacy architectures. Moreover, the modular architecturally defined firmware means taught by Krithivas would improve the flexibility of Datta because it allowed the BIOS to adapt to a variety of changing circumstances after the computer is placed into service [col. 1, lines 13-53].

8. As to claim 2, Datta discloses using the volume top file to locate a dispatcher module [col. 4, lines 1-14].

9. As to claim 3, Datta discloses using the dispatcher module to access the set of firmware modules [col. 6, lines 36-39].

10. As to claim 4, Datta discloses the set of firmware modules initialize the computer [col. 1, lines 40-46].

11. As to claim 5, Datta discloses using a reset vector to access the volume top file [col. 6, lines 27-35].

12. As to claim 6, Datta discloses the volume top file includes addresses of the set of firmware modules [col. 5, lines 41-49].

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13. As to claim 7, Datta discloses the volume top file includes an address of a base of a first firmware module [col. 5, lines 41-49].
14. As to claim 8, Datta discloses the base of the first firmware module includes a boot firmware volume base [col. 3, lines 52-59].
15. As to claim 9, Datta discloses the volume top file comprises an authentication block [col. 3, lines 49-51].
16. As to claim 10, Datta discloses the volume top file validates the set of firmware modules [col. 5, lines 52-56].
17. As to claim 11, Datta discloses designating the volume top file as a last file in the set of firmware modules [col. 6, lines 17-19].
18. As to claim 12, Datta discloses the designating includes aligning an end of the volume top file with a memory boundary [col. 6, lines 17-19 and 27-30].
19. As to claim 13, Datta discloses the memory boundary includes between 4 and 10 giga bytes (Gbyte) of memory [col. 6, lines 27-30].

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20. As to claim 14, Datta discloses a system comprising: a non-volatile memory [170] of a computer that initializes a boot routine in the computer [col. 5, lines 29-31]; a processing architecture of the computer configured to bootstrap a volume top file [col. 5, lines 29-31] located in a first addressable location accessible upon the initializing of the boot routine [col. 6, lines 27-35]; and the volume top file configured to bootstrap a set of firmware modules [col. 5, lines 41-44]. Krithivas further teaches that the native architecture conforms to an EFI specification comprising modular architecturally defined components for build firmware, and that the native volume top file conforms to an EFI specification [col. 2, lines 60-67, and col. 3, lines 1-12].

21. As to claim 15, Datta discloses the volume top file is configured to locate a dispatcher module [col. 4, lines 1-14].

22. As to claim 16, Datta discloses the dispatcher module is configured to access the set of firmware modules [col. 6, lines 36-39].

23. As to claim 17, Datta discloses the set of firmware modules are configured to initialize the computer [col. 1, lines 40-46].

24. As to claim 18, Datta discloses the volume top file includes addresses of the set of firmware modules [col. 5, lines 41-49].

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25. As to claim 19, Datta discloses the volume top file includes an address of a base of a first firmware module [col. 5, lines 41-49].

26. As to claim 20, Datta discloses an apparatus comprising: a processor [110]; a non-volatile memory [170] in which is stored: a volume top file [208] located in a first addressable location of the non-volatile memory accessed by a central processing unit (CPU) of a computer, the volume top file being accessible using a reset vector [col. 6, lines 27-35]; a data structure associated with the first firmware module [col. 5, lines 41-51]; and, a second firmware module [204] accessible by the volume top file. Krithivas further teaches that the native architecture conforms to an EFI specification comprising modular architecturally defined components for build firmware, and that the native volume top file conforms to an EFI specification [col. 2, lines 60-67, and col. 3, lines 1-12].

27. As to claim 21, Datta discloses a first firmware module comprises a distinguished firmware module [col. 5, lines 29-31].

28. As to claim 22, Datta discloses a dispatcher module located by the volume top file [col. 4, lines 1-14].

29. As to claim 23, Datta discloses the set of firmware modules include an initialization routine for initializing the computer [col. 1, lines 40-46].

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30. As to claim 24, Datta discloses the volume top file includes an address of a base of the second firmware module [col. 5, lines 41-49].

31. As to claim 25, Datta discloses the base of the second firmware module comprises a boot firmware volume base [col. 3, lines 52-59].

32. As to claim 26, Datta discloses the volume top file includes an authentication block [col. 3, lines 49-51].

33. As to claim 27, Datta discloses the volume top file validates the second firmware module [col. 5, lines 52-56].

34. As to claim 28, Krithivas discloses the volume top file includes bridges between code that is architecturally specified by the computer and platform code which is not architecturally specified by the computer [col. 3, lines 32-38].

35. As to claim 29, Krithivas discloses locating code and data at fixed locations required by the computer architecture [col. 3, lines 39-41].

36. As to claim 30, Krithivas discloses the volume top file includes a priori information to access a base of firmware system, the firmware base to be used by the set of firmware modules to publish a general set of access services to discover volumes [col. 4, lines 37-59].

Response to Arguments

37. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

38. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Chang whose telephone number is (571) 272-3671. The examiner can normally be reached on M-F 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 15, 2005
ec


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